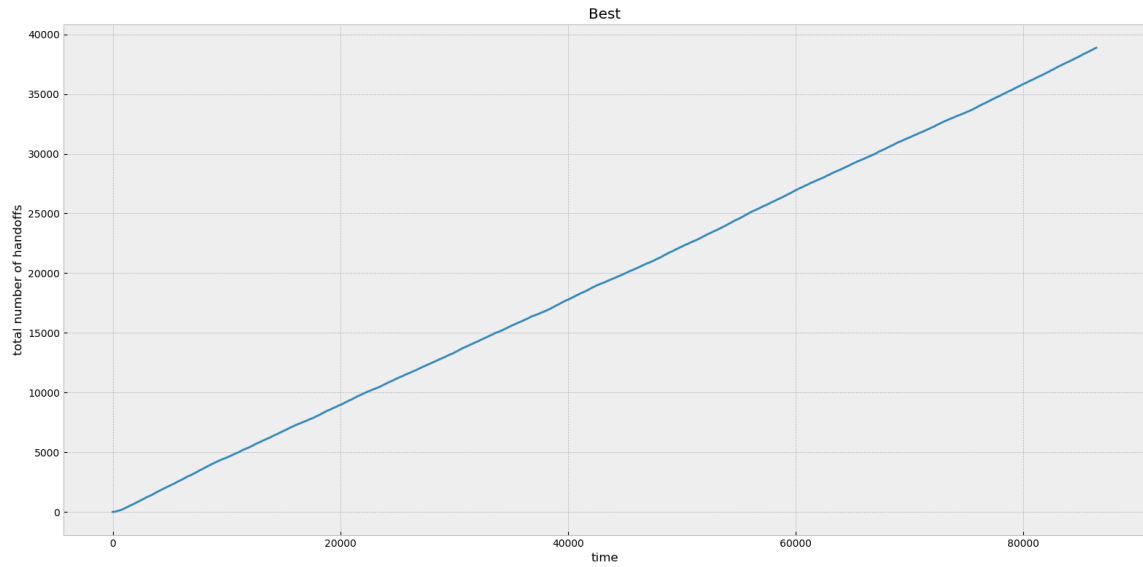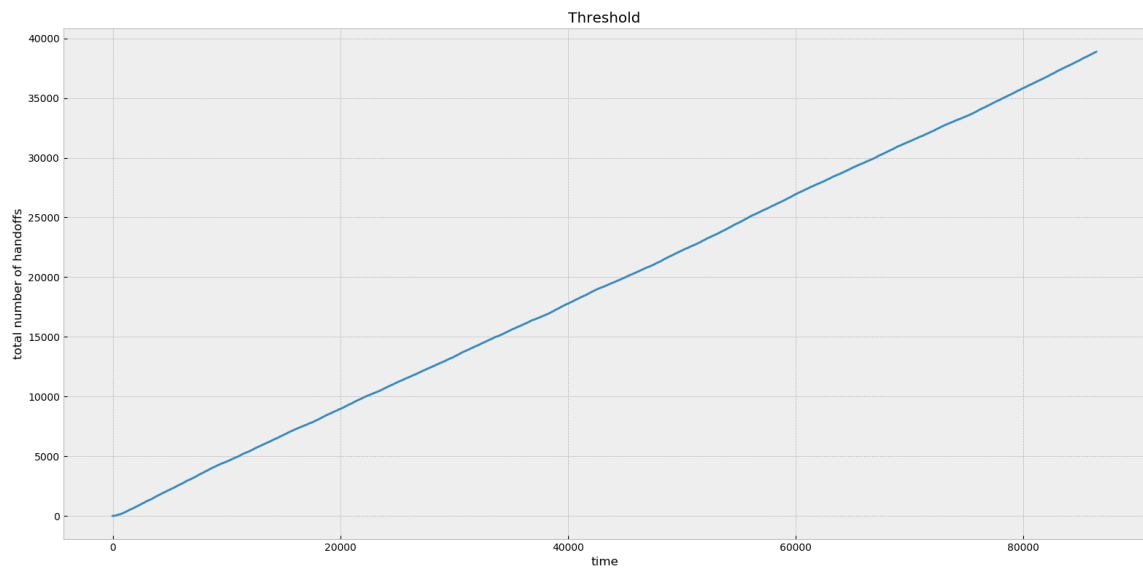# 無線通訊網路 Project HW1

圖表 :
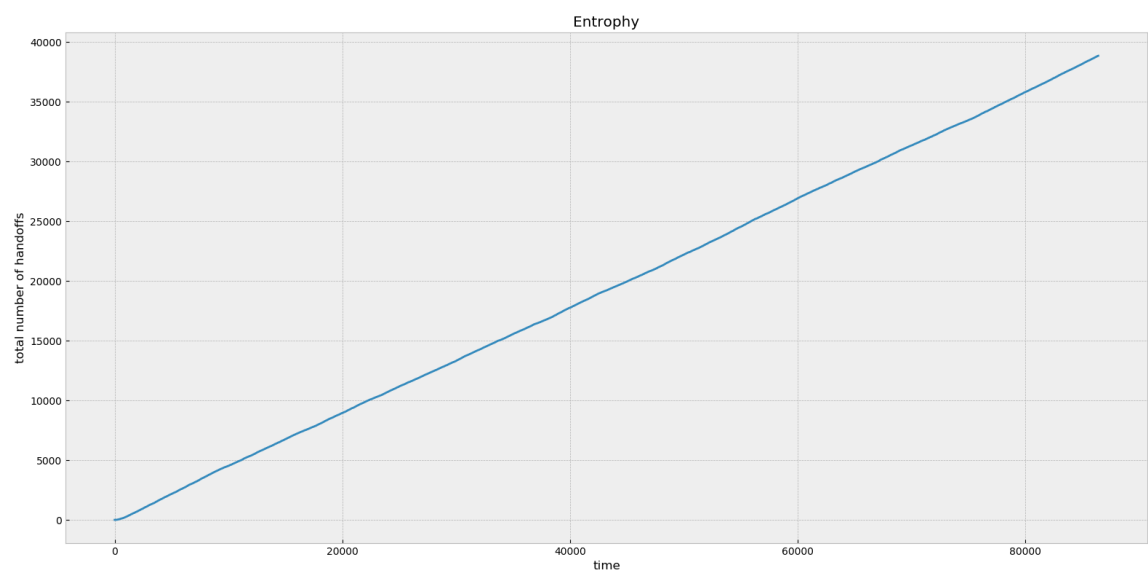
Best 的 handoff : 38880
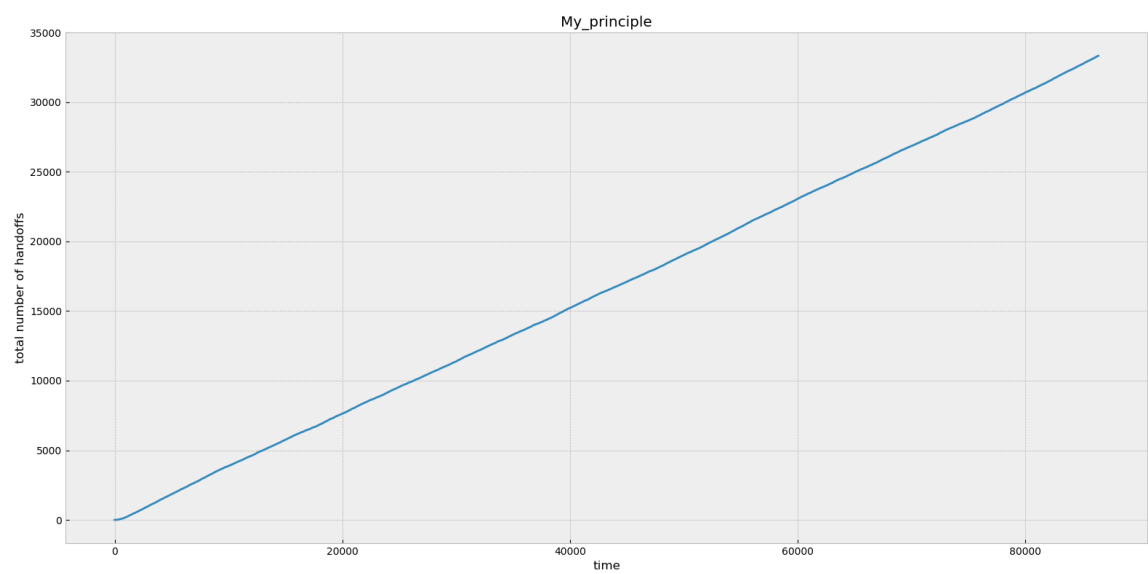

Threshold 的 handoff : 38880

Entrophy 的 handoff : 38861

My principle 的 handoff : 33341

Source code (four policy) :

```python
def Best(now_bs,bs0,bs1,bs2,bs3):
    if now_bs==0:
        next_bs=0
        max_bs_value=bs0
        if bs1>max_bs_value:
            max_bs_value=bs1
            next_bs=1
        if bs2>max_bs_value:
            max_bs_value=bs2
            next_bs=2
        if bs3>max_bs_value:
            max_bs_value=bs3
            next_bs=3
    elif now_bs==1:
        next_bs=1
        max_bs_value=bs1
        if bs0>max_bs_value:
            max_bs_value=bs0
            next_bs=0
        if bs2>max_bs_value:
            max_bs_value=bs2
            next_bs=2
        if bs3>max_bs_value:
            max_bs_value=bs3
            next_bs=3
    elif now_bs==2:
        next_bs=2
        max_bs_value=bs2
        if bs1>max_bs_value:
            max_bs_value=bs1
            next_bs=1
        if bs0>max_bs_value:
            max_bs_value=bs0
            next_bs=0
        if bs3>max_bs_value:
            max_bs_value=bs3
            next_bs=3
    else: # now_bs==3:
        next_bs=3
```

```python
            max_bs_value=bs3
            if bs1>max_bs_value:
                max_bs_value=bs1
                next_bs=1
            if bs2>max_bs_value:
                max_bs_value=bs2
                next_bs=2
            if bs0>max_bs_value:
                max_bs_value=bs0
                next_bs=0


    return next_bs




def Threshold(now_power,now_bs,bs0,bs1,bs2,bs3):
    next_bs=now_bs

    if now_power<-125:
        return Best(now_bs,bs0,bs1,bs2,bs3)
    elif now_bs==0 and bs0<-110:
        next_bs=0
        max_bs_value=bs0
        if bs1>max_bs_value:
            max_bs_value=bs1
            next_bs=1
        if bs2>max_bs_value:
            max_bs_value=bs2
            next_bs=2
        if bs3>max_bs_value:
            max_bs_value=bs3
            next_bs=3
    elif now_bs==1 and bs1<-110:
        next_bs=1
        max_bs_value=bs1
        if bs0>max_bs_value:
            max_bs_value=bs0
            next_bs=0
        if bs2>max_bs_value:
            max_bs_value=bs2
            next_bs=2
        if bs3>max_bs_value:
```

```python
                max_bs_value=bs3
                next_bs=3
        elif now_bs==2 and bs2<-110:
            next_bs=2
            max_bs_value=bs2
            if bs1>max_bs_value:
                max_bs_value=bs1
                next_bs=1
            if bs0>max_bs_value:
                max_bs_value=bs0
                next_bs=0
            if bs3>max_bs_value:
                max_bs_value=bs3
                next_bs=3
        elif now_bs==3 and bs3<-110:
            next_bs=3
            max_bs_value=bs3
            if bs1>max_bs_value:
                max_bs_value=bs1
                next_bs=1
            if bs2>max_bs_value:
                max_bs_value=bs2
                next_bs=2
            if bs0>max_bs_value:
                max_bs_value=bs0
                next_bs=0


        return next_bs



def Entrophy(now_power,now_bs,bs0,bs1,bs2,bs3):
    if now_power<-125:
        return Best(now_bs,bs0,bs1,bs2,bs3)
    elif now_bs==0:
        next_bs=0
        max_bs_value=bs0+5
        if bs1>max_bs_value:
            max_bs_value=bs1
            next_bs=1
        if bs2>max_bs_value:
            max_bs_value=bs2
```

```python
            next_bs=2
        if bs3>max_bs_value:
            max_bs_value=bs3
            next_bs=3
    elif now_bs==1:
        next_bs=1
        max_bs_value=bs1+5
        if bs0>max_bs_value:
            max_bs_value=bs0
            next_bs=0
        if bs2>max_bs_value:
            max_bs_value=bs2
            next_bs=2
        if bs3>max_bs_value:
            max_bs_value=bs3
            next_bs=3
    elif now_bs==2:
        next_bs=2
        max_bs_value=bs2+5
        if bs1>max_bs_value:
            max_bs_value=bs1
            next_bs=1
        if bs0>max_bs_value:
            max_bs_value=bs0
            next_bs=0
        if bs3>max_bs_value:
            max_bs_value=bs3
            next_bs=3
    else: # now_bs==3:
        next_bs=3
        max_bs_value=bs3+5
        if bs1>max_bs_value:
            max_bs_value=bs1
            next_bs=1
        if bs2>max_bs_value:
            max_bs_value=bs2
            next_bs=2
        if bs0>max_bs_value:
            max_bs_value=bs0
            next_bs=0

    return next_bs
```

```python
def My_principle(now_power,now_bs,bs0,bs1,bs2,bs3):
    if now_power<-125:
        return Best(now_bs,bs0,bs1,bs2,bs3)
    elif now_bs==0:
        next_bs=0
        max_bs_value=bs0*(3/5)
        if bs1>max_bs_value:
            max_bs_value=bs1
            next_bs=1
        if bs2>max_bs_value:
            max_bs_value=bs2
            next_bs=2
        if bs3>max_bs_value:
            max_bs_value=bs3
            next_bs=3
    elif now_bs==1:
        next_bs=1
        max_bs_value=bs1*(3/5)
        if bs0>max_bs_value:
            max_bs_value=bs0
            next_bs=0
        if bs2>max_bs_value:
            max_bs_value=bs2
            next_bs=2
        if bs3>max_bs_value:
            max_bs_value=bs3
            next_bs=3
    elif now_bs==2:
        next_bs=2
        max_bs_value=bs2*(3/5)
        if bs1>max_bs_value:
            max_bs_value=bs1
            next_bs=1
        if bs0>max_bs_value:
            max_bs_value=bs0
            next_bs=0
        if bs3>max_bs_value:
            max_bs_value=bs3
            next_bs=3
```

```python
    else: # now_bs==3:
        next_bs=3
        max_bs_value=bs3*(3/5)
        if bs1>max_bs_value:
            max_bs_value=bs1
            next_bs=1
        if bs2>max_bs_value:
            max_bs_value=bs2
            next_bs=2
        if bs0>max_bs_value:
            max_bs_value=bs0
            next_bs=0

    return next_bs
```

Introduction to my policy :

My policy → P new > P old * (3/5)

Policy 的總平均 Power :

Best : -114.69
Threshol : -114.69
Entrophy : -114.91
My principle : -116.32

My policy 相較於其他 policy，handoff 次數最少，總平均 Power 最小。